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Security ContainerTECHNICAL FIELD

This invention relates to security containers for containing goods, for instance whilst they are on display in a retail outlet. It also relates to security devices for installing therein and to containers adapted to receive such security devices.

BACKGROUND ART

Security containers for housing information storage media, e.g. CDs and DVDs, are known. WO02/39451 describes various forms of apparatus for holding information storage media and security devices for use therewith and the contents thereof is incorporated herein. WO02/39451 is primarily concerned with a security device arranged to lock a CD or DVD container in a closed configuration. The security device preferably carries alarm triggering means, such as an Electronic Article Surveillance (EAS) label or tag. Once the security device has been released, it may be withdrawn from the container (with the alarm triggering means) for disposal or re-use in another CD or DVD container, so the container can be freely opened and closed to permit access to the CD or DVD therein and the purchaser can then take the container away from the retail outlet without triggering the alarm.

An alternative way of securing CD or DVD containers is to house them, complete with their existing containers, in a lockable overbox which is known in the trade as a 'safer'. Alarm triggering means are housed within the overbox and, when the goods are purchased by a customer, the retailer unlocks the overbox and removes the CD or DVD container housed therein for the customer to take away. The overbox is retained in the store for re-use.

The present invention provides another form of security container or overbox.

SUMMARY OF INVENTION

According to a first aspect of the invention, there is provided an over container for providing a security housing for a first container, the over container being adapted to

receive or contain the first container and having alarm triggering means therein such that, when in a locked configuration, neither the first container nor the alarm triggering means can be removed therefrom and, when in an unlocked configuration, the over container can be opened to allow the first container to be removed therefrom, the over container being provided with a locking device having first and second arms which, in a locked position, respectively engage parts of the over container so as to hold the over container in a closed configuration and which, in an unlocked position, enable said parts to be moved to an open configuration, the locking device having retaining means which, when the locking device is moved to the locked position, acts to retain the locking device in this position and which is releasable upon application of a predetermined magnetic field thereto.

The over container may be arranged to be a snug-fit around the first container. Alternatively, the over container may be provided with locating means for locating and/or holding the first container therein.

According to another aspect of the invention, there is provided a security container arranged or used as an overbox, the security container being adapted to receive or contain predetermined goods and having alarm triggering means therein such that, when in a locked configuration, neither the goods nor the alarm triggering means can be removed therefrom and, when in an unlocked configuration, the container can be opened to allow the goods to be removed therefrom, the container being provided with a locking device having first and second arms which, in a locked position, respectively engage parts of the container so as to hold the container in a closed configuration and which, in an unlocked position, enable said parts to be moved to an open configuration, the locking device having retaining means which, when the locking device is moved to the locked position, acts to retain the locking device in this position and which is releasable upon application of a predetermined magnetic field thereto. Preferably, a security container such as that described in WO02/39451 is arranged or used as an overbox, and has a security device which is insertable therein to lock the box in a closed configuration.

According to a further aspect of the invention there is provided a security container adapted to receive or contain predetermined goods other than information storage media directly and having alarm triggering means therein such that, when in a locked configuration, neither the goods nor the alarm triggering means can be removed therefrom and, when in an unlocked configuration, the container can be opened to allow the goods to be removed therefrom, the container being provided with a locking device having first and second arms which, in a locked position, respectively engage parts of the container so as to hold the container in a closed configuration and which, in an unlocked position, enable said parts to be moved to an open configuration, the locking device having retaining means which, when the locking device is moved to the locked position, acts to retain the locking device in this position and which is releasable upon application of a predetermined magnetic field thereto. Preferably a security container such as that described in WO02/39451. For example, goods such as a watch, necklace or other jewellery may be housed in the container. Preferably, the security container is provided with locating means for locating and/or holding the goods therein.

Preferably, the security device, whilst being movable between locked and unlocked positions, cannot be removed from the over container. In a preferred embodiment, the security device comprises a resilient tab which is orientated so as to flex as it passes through a slot when the security device is first installed in the container but is unable to pass through the slot in the opposite direction and so prevents the security device being withdrawn completely from the container. Alternatively, the security device may comprise a slot located over a pin provided in the over container such that the security device can be slid back and forth but held captive by said pin.

The invention also relates to a security device per se for use in a security container as described above.

The invention also relates to a container or over container per se adapted to receive a security device of the type claimed and described herein.

Preferably, the security device is similar to that shown and described in relation to Figures 1-3, 11 or 23 of WO02/39451 although the longer arm thereof may be shorter as it does not need to interact with disk holding means.

Preferably, the security device comprises a locking mechanism similar to that shown and described in relation to Figures 11-15 and Figures 19A-19B of WO02/39451.

Preferably, the security device is such as to be releasable from the locked position thereof by release apparatus similar to that shown and described in relation to Figures 34-37 of WO02/39451. Alternatively, the release apparatus may be of a modified form similar to that described in GB2371597A, e.g. as shown and described in relation to Figures 6 and 7 thereof. The disclosure of GB2371597A is incorporated herein.

The security container or overbox preferably has an EAS tag or label affixed thereto. This may be an acousto-magnetic (AM) device, for instance in the form of a label or strip applied to an inner surface of the container or to part of the security device so that it cannot be removed by a potential thief when the container is locked in a closed configuration.

Alternatively, a radio frequency (RF) device may be used, e.g. in the form of a flat coil of wire which acts as a transponder. Such coils typically have a diameter of around 50mm so, in some cases, it may be desirable to locate the goods held by the container off-centre or towards one side of the container to provide more room for the coil. In another arrangement, the transponder may comprise a coil wound around a ferrite core. In some cases, it may be desirable to mount such a transponder in a part of the security device, e.g. as described in GB0215397.1 and PCT/GB2003/002885 the disclosure of which is incorporated herein. These disclose arrangements in which the transponder is mounted within the head of the security device so it is located adjacent an external edge of the container.

Other features of the invention will be apparent from the following description.

### BRIEF DESCRIPTION OF DRAWINGS

The invention will now be further described, merely by way of example, with reference to the accompanying drawings in which:

Figures 1A and 1B show perspective views of a security container according to a first embodiment of the invention used as an over-box for a jewel box; Figure 1A showing a security device thereof in a locked position and Figure 1B showing the security device in an unlocked position; and Figure 1C shows a perspective view of the security device itself;

Figures 2A and 2B shows perspective views of a security container according to a second aspect of the invention used to house goods, such as a watch, directly; Figure 2A showing a security device thereof in a locked position and Figure 2B showing the security device in an unlocked position; and Figure 2C shows a perspective view of the security device itself (which is the same as that shown in Figure 1C);

Figure 3A, 3B and 3C are cross-sections taken on line A-A of Figure 1A or Figure 2A showing the security device in three positions;

Figures 4A, 4B and 4C are perspective views of a security container according to a second embodiment of the invention used as an over-box: Figure 4A shows the container, with two primary containers therein, secured in a closed position by a security device; Figure 4B shows the container in an open position following removal of the security device (viewed from a different direction to Figure 4A) and Figure 4C shows the container as in Figure 4B but without the two primary containers therein but with a security device inserted therein; and

Figure 5A and 5B are perspective views of a security container according to a third embodiment of the invention used as an over-box: Figure 5A shows the container secured in a closed position by a security device and Figure 5B shows the container

in an open position, following release of the security device, with two primary containers and other items therein.

#### BEST MODE OF THE INVENTION

Figure 1A shows a container 1 comprising a base portion 1A and a lid portion 1B hinged along side 1C generally similar to that described in WO02/39451 but without disk holding means and instead shaped so as to hold a conventional jewel box 2 therein.

A security device 3 as shown in Figure 1C is inserted into the opening side 1D of the container to lock it in the closed position. The security device 3 comprises a head portion 3A, a first arm 3B and a second arm 3C and is similar to that shown in Figure 23 of WO02/39451 except that the longer arm 3C thereof is much shorter as, in this embodiment, it does not interact with disk holding means (or other means within the container) nor does it carry an EAS label. Instead, an EAS label 7 is provided within the container 1 (on an internal surface thereof).

The security device 3 has a locking mechanism 4 comprising a metal pivot arm 5. This is similar to the pivot arm described in WO02/39451 but is provided with additional, upstanding, movement limiting tabs 5A the function of which will be described below with reference to Figure 3.

In the embodiment shown in Figures 1A and 1B, the container also has a cover 6 formed therein for covering the part of the security device 3 located within the container 1.

Figure 1C shows the security device prior to installation in the container. Figure 1A shows the security device when inserted in the container so as to hold the container in a closed position, the two arms 3B and 3C being fitted within slots in the lid and base portion 1B and 1A, respectively. The EAS label 7 is thus also locked within the container.

Once the locking mechanism 4 has been released, the security device 3 can be partially withdrawn from the container 1 until the first arm 3B is withdrawn from the lid portion 1B and so allows the lid portion 1B to be opened.

As will be described below, the security device 3 is preferably arranged so that it cannot be withdrawn from the position shown in Figure 1B so it is held captive. Once the jewel box 2 has been removed and given to a customer, the container 1 can thus be re-used as a cover box for another jewel box.

Figures 2A, 2B and 2C show a similar arrangement to Figures 1A, 1B and 1C except that the container directly houses goods, such as a watch 10, rather than acting as a cover box. Preferably, the container is adapted to hold the watch 10 in place or is provided with an insert, e.g. a sheet cardboard with slots therein, for holding the watch in place. When the watch is sold, it may be removed from the container so the container can be re-used in the store. Alternatively, the container may be given to the customer as a presentation case for the watch. In the latter case, the security device would need to be of a form that could be removed entirely or put into a state in which the locking mechanism is inactive, e.g. as shown and described in relation to Figures 12 and 13 of WO02/39451. Figures 2A and 2B show an RF alarm triggering device 11 in the form of a flat coil mounted within the container 1.

The containers shown in Figures 1 and 2 are preferably shaped so as to be able to be inserted into the same release apparatus as the store uses for unlocking DVD containers as described in WO02/39451. Alternatively, the release apparatus may be designed to accommodate a range of different size containers, e.g. as described in GB2371597A or designed to receive containers of any shape having the type of security device described herein installed therein. In other situations, it may be acceptable for separate release apparatus to be used for containers of other shapes and/or sizes.

Figures 3A, 3B and 3C respectively show the security device 3 when it is first installed in the container 1, when it is in the locked position and when it is partially withdrawn so as to enable the lid portion 1B to be opened.

Figures 3A-3C show the head portion 3A and first and second arms 3B and 3C of the security device and the pivot arm 5 carried by the second arm 3C. They also show the extra movement limiting tabs 5A thereof. The Figures also show part of the lid and base portions 1B and 1A of the containers 1 and slots 1E and 1F with which the arms 3B and 3C engage respectively.

In Figure 3A, the security device 3 is being inserted into the container and the tabs 5A are flexed as it passes through the slot 1F.

In Figure 3B, the security device 3 is in the locked position with arm 3B within slot 1E and arm 3C within slot 1F. An end 5B of the pivot arm 5 engages a detent 1G within the container to prevent withdrawal of the security device 3.

When the container 1 is inserted into release apparatus, a further inward force is applied to the security device 3 via the head portion 3A and a magnetic field is applied to the pivot arm 5 to move it out of engagement with the detent 1G whereby the security device 3 can be withdrawn to the position shown in Figure 3C. In this position, the first arm 3B is withdrawn from slot 1E so the lid portion 1B can be opened. However, tab 5A engage a further detent 1H in the container and prevent the security device 3 from being withdrawn completely from the container.

Other arrangements may be used to prevent complete withdrawal of the security tag from the container. The security device 3 may, for instance, have a slot (not shown) in arm 3C which fits over a pin (not shown) in the container such that the security device 3 can be slid back and forth on the pin but is held captive thereby.

The security container 1 is preferably formed of a tough plastics material which is difficult for a potential thief to break inconspicuously, e.g. a tough polycarbonate.



Preferably, at least part of the container is of clear plastics material so the contents can be easily seen therethrough.

Figures 4A-4C shows perspective views of another embodiment of the invention which provides an overbox 10 for housing one or more primary containers 11.

As shown in Figure 4B, the overbox 10 comprises a lid portion 12 and a base portion 13 hinged together at one edge. The lid and base portion are shaped to located and house specific goods therein, for example medical or pharmaceutical products housed within parallelepiped primary containers such as cardboard cartons 11. The overbox 10 also acts as a display case and is provided with an apertured tab 10A to allow it to be hung on a display rack.

The container 10 is adapted to receive a security device 14 of the type described above, e.g. of the type disclosed in Figures 1-3, 11 or 23 of WO02/39451. Specifically, the lid portion 12 is provided with a projection 12A which defined a slot 12B therein for receiving one arm 14A of the security device 14 and the base portion 13 is provided with a slot 13A for receiving a second arm 14B of the security device 14. As shown in Figure 4C, the base portion 13 may also have a slot 13B for receiving and locating a distal end of the second arm 14B.

Figures 5A and 5B show a further embodiment of the invention which provides an overbox 20 for housing one or more primary containers 21 as well as other goods 22. In this case, the overbox is shaped to house two cylindrical primary containers 21, for example plastic capsules containing medicaments. The overbox 20 comprises a lid portion 23 hinged to a base portion 24. The lid portion 23 has a recessed area 23A for receiving a first arm of a security device 25 and the base portion 24 has a slot 24A for receiving a second arm of the security device 25.

As indicated above, the containers and overboxes described above may be arranged so the security device can be released by the same type of release apparatus used in a retail outlet to release similar security devices in other products, e.g. CD or DVD

containers. To enable this, the security device preferably comprises a head portion from which first and second arms extend and which is arranged so that, in the locked position, the head portion is located externally of the container adjacent a first side thereof and has metal retaining means which are located internally of the container adjacent a second side thereof, the second side extending substantially perpendicular to the first side. The release apparatus operates by engaging the head portion to push the security device slightly further into the container whilst applying a magnetic field to move the retaining means to an unlocked position whereupon the security device can be at least partially withdrawn from the container so as to permit the container to be opened.

The security device functions to secure the container or over-container in the closed position. The security device may also interact with the goods and/or with locating means for locating the goods in the container so as to inhibit movement of the goods. The security device may, for instance, lie over the goods and/or may block access to the goods and/or locating means so as to inhibit removal of the goods. Alternatively, or additionally, the security device may inhibit removal of the locating means (and hence of the goods mounted thereon) from the container.

The present invention is not restricted to the details of the embodiments described above. The security device, and the locking mechanism used therein, may for instance be modified or other forms of security device or locking mechanism used although, preferably, the principles of operation thereof are similar to those described above.

The security container described above can be used as an over container for a wide variety of goods which are already housed in a primary container. Alternatively, it can be used to directly house a variety of other goods. In both cases, it enables the products to be displayed in a retail outlet but provides a level of security which helps deter or prevent theft of the goods from the store.